Practical Solutions for Connections Administrators

Tips and Scripts for Your Daily Business

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Who Are We?

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Bavarian, Dad of two, likes hiking
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Lover of Linux

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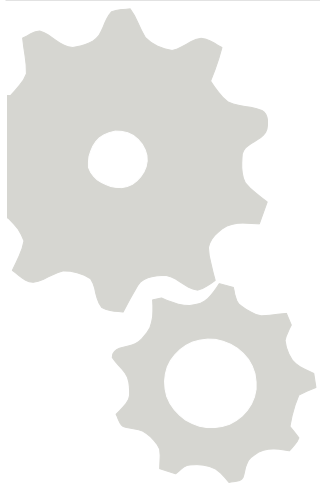Lover of Linux

Agenda

- Installing and Configuring
  - Autostart
    - IBM WebSphere
    - DB2 (Linux)
    - IBM HTTP Server
  - Performance Tuning DataSources
  - Setting J2EE Security Roles
  - Configure JVM Log Files
  - Set JVM Heap Sizes
  - HTTPServer and mod_deflate

- Business as Usual
  - Check External ID against LDAP
  - Activate and Deactivate Users
  - Synchronize User External IDs
  - Work with Policies
  - Adding Policies to personal or community libraries
  - Database reorganisation
 - Backup DB2 (online, offline)

Agenda (2)

- Troubleshooting
  - Application state
  - Database access
  - Scheduler

- Documenting
  - JVM Heap Sizes
  - JVM Log Settings
  - Used Ports within WebSphere
  - WebSphere Variables

Disclaimer & Caution

- With scripts
  - Shell / BASH / ZSH / KSH / SH, Jython / JACL
  - Powershell / Batch / VB, SQL
- You can...
  - Save a lot of time!
  - Change many things in seconds!
- TIPPS:
  - Be Careful! Think twice!
  - Create Backups
  - Install a Testsystem
  - Document your changes
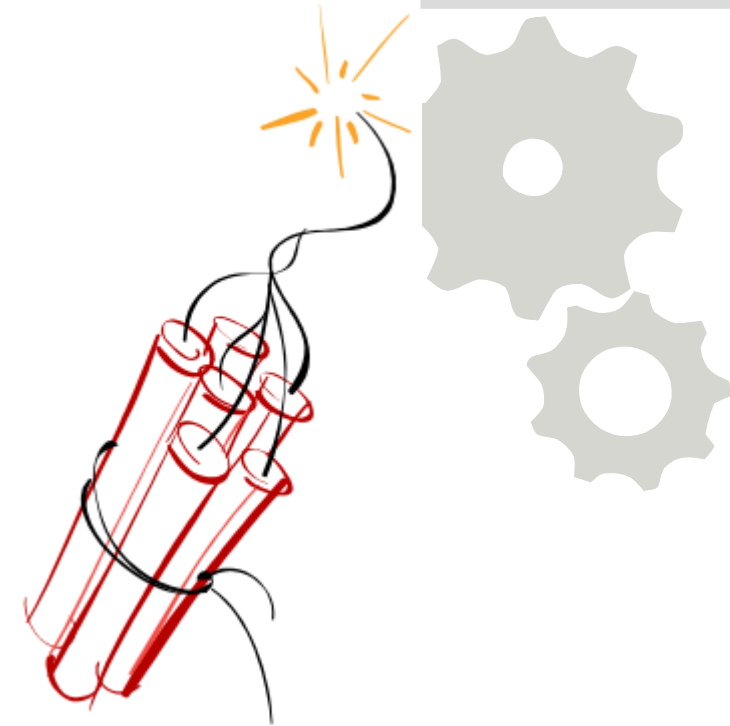
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Installing & Configuring

Autostart IBM WebSphere Application Server

- Many different ways found and discussed
- Easiest and most reliable way
  - Deployment Manager and Nodeagents as Services
  - Application Servers through Monitoring Policies
- Starting Application Servers through Service, Batch or Shell Script has often side effects
  - Problems with Cluster Failover
  - Dependencies
- Register Services with wasservice.bat|sh
- Remember to set Monitoring Policy to "Stopped" when you install Fixes!

Register WebSphere Service on Linux

```bash
#!/bin/bash
cd $WAS_HOME/bin
./wasservice.sh -add Dmgr -serverName dmgr -profilePath /opt/IBM/WebSphere/AppServer/profiles/Dmgr01 \
 -stopArgs '-username wasadmin -password password'
./wasservice.sh -add Node -serverName nodeagent -profilePath /opt/IBM/WebSphere/AppServer/profiles/AppSrv01 \
 -stopArgs '-username wasadmin -password password -stopservers'
chkconfig --levels 2345 --add Dmgr_was.init on
chkconfig --levels 2345 --add Node_was.init on
```
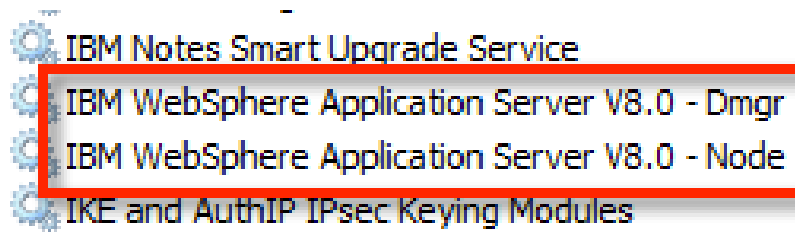
```
[root@cnxwas1 ~]# ls /etc/init.d/
abrt-ccpp    auditd           haldaemon    lvm2-lvmetad    nfs          psacct       rpcidmapd    sshd
abrtd        blk-availability halt         lvm2-monitor    nfslock      quota_nld    rpcsvcgssd   sysstat
abrt-oops    cpuspeed         ip6tables    mdmonitor       Node_was.init rdisc       rsyslog      udev-post
acpid        crond            iptables     messagebus      ntpd         restorecond  sandbox      vmware-tools
adminctl     cups             irqbalance   netconsole      ntpdate      rngd         saslauthd    vmware-tools-thinprint
apachectl    Dmgr_was.init    kdump        netfs           portreserve  rpcbind      single
atd          functions        killall      network         postfix      rpcgssd      smartd
```

Register WebSphere Service on Windows

```
cd %WAS_HOME%/bin

wasservice.bat -add Dmgr -serverName dmgr -profilePath
D:\IBM\WebSphere\AppServer\profiles\Dmgr01 -encodeParams -
restart true -startType automatic -stopArgs "-username wasadmin
-password password"

wasservice.bat -add Node -serverName nodeagent -profilePath
D:\IBM\WebSphere\AppServer\profiles\AppSrv01 -encodeParams -
restart true -startType automatic -stopArgs "-username wasadmin
-password password -stopservers"
```


|		
IBM Notes Smart Upgrade Service	A service t...	Started
IBM WebSphere Application Server V8.0 - Dmgr	Controls th...	
IBM WebSphere Application Server V8.0 - Node	Controls th...	
IKE and AuthIP IPsec Keying Modules	The IKEEX...	Started

Configure Monitoring Policy

- ISC:
  - Open each Application Server (1 – 15 x)
  - Server – Infrastructure – Java and Process Management – Monitoring Policy
  - Change Node restart state to "RUNNING"
- WSADMIN:
  - ./wsadmin.sh -lang jython -f cfgMonitoringPolicy.py
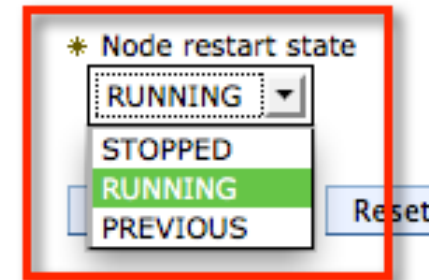
```
[root@cnxwas1 bin]# wsadmin -lang jython -f cfgMonitoringPolicy.py
WASX7209I: Connected to process "dmgr" on node cnxwas1CellManager01
ymentManager
Which state do you want to set? (S|R|P)(STOPPED|RUNNING|PREVIOUS)R
Set nodeRestartState for FEB_server1 to: RUNNING
Set nodeRestartState for Cluster1_server1 to: RUNNING
Set nodeRestartState for Cluster2_server1 to: RUNNING
Set nodeRestartState for InfraCluster_server1 to: RUNNING
Set nodeRestartState for ConversionMember1 to: RUNNING
Set nodeRestartState for ViewerMember1 to: RUNNING
Set nodeRestartState for DocsMember1 to: RUNNING
Syncronizing nodecnxwas1Node01
```

Autostart IBM HTTP Server

- Windows Installer create a Service for IHS and Admin Service
  - httpd.exe -k install (-c httpd.conf|admin.conf) -n "IBM HTTP Server 8"
- Easiest way for Linux | AIX:
  - Create Symbolic Link:
    - ln -s /opt/IBM/HTTPServer/bin/apachectl /etc/init.d/
    - ln -s /opt/IBM/HTTPServer/bin/adminctl /etc/init.d/
  - Add Service
    - chkconfig –add apachectl
    - chkconfig –add adminctl

```
/etc/init.d/abrt-ccpp
/etc/init.d/abrtd
/etc/init.d/abrt-oops
/etc/init.d/acpid
/etc/init.d/adminctl -> /opt/IBM/HTTPServer/bin/adminctl
/etc/init.d/apachectl -> /opt/IBM/HTTPServer/bin/apachectl
/etc/init.d/atd
/etc/init.d/auditd
```

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    - ln -s /opt/IBM/HTTPServer/bin/apachectl /etc/init.d/
    - ln -s /opt/IBM/HTTPServer/bin/adminctl /etc/init.d/
  - Add Service
    - chkconfig –add apachectl
    - chkconfig –add adminctl

```
[root@cnxwas1 bin]# chkconfig --list
Dmgr_was.init   0:off   1:off   2:on    3:on    4:on    5:on    6:off
Node_was.init   0:off   1:off   2:on    3:on    4:on    5:on    6:off
abrt-ccpp       0:off   1:off   2:off   3:on    4:off   5:on    6:off
abrtd           0:off   1:off   2:off   3:on    4:off   5:on    6:off
acpid           0:off   1:off   2:on    3:on    4:on    5:on    6:off
adminctl        0:off   1:off   2:on    3:on    4:on    5:on    6:off
apachectl       0:off   1:off   2:on    3:on    4:on    5:on    6:off
atd             0:off   1:off   2:off   3:on    4:on    5:on    6:off
auditd          0:off   1:off   2:on    3:on    4:on    5:on    6:off
```

Autostart DB2 (Red Hat / CentOS)

- DB2 V9 is started through /etc/inittab entry
    - inittab is deprecated in RHEL/CENTOS 6
    - https://www-304.ibm.com/support/docview.wss?uid=swg21497220
- DB2 V10.1 can handle /etc/init/db2fmcd.conf
- In my case /etc/init/db2fmcd.conf wasn't enough
- I added following script (copy of db2fmcd) to /etc/init for each DB2 instance:

```
description 'Fault Monitor is the DB2 database facil
 instance that exits permaturely.'
version 'DB2 v10.1.0.1'

start on stopped rc RUNLEVEL=[2345]
stop on starting rc RUNLEVEL=[016]

console output
respawn
respawn limit 10 120

exec /opt/ibm/db2/V10.1/bin/db2fm -i db2inst1 -U
~
```

Performance Tuning

- Performance Tuning IBM Connections
  - Increase min- and maxConnections of Data Sources
    - Performance Tuning Guide IBM Connections 4.0
    - Performance Tuning Guide Addendum
  - Review these settings periodically with "Tivoli Performance Viewer"
- IBM Connections Forum:
- After Update to IBM Connections 4.5 Errors on createOrWaitForConnection
- (Ressource jdbc/search)

searchJDBC					
☑	—■—	CreateCount ⍰	10.0	1.0	10.0
☑	—●—	CloseCount ⍰	0.0	1.0E20	0.0
☑	—▼—	PoolSize ⍰	10.0	1.0	10.0
☐		FreePoolSize ⍰	9.0	1.0	9.0
☐		WaitingThreadCount ⍰	0.0	1.0E20	0.0
☐		PercentUsed ⍰	1.0	1.0	1.0
☐		UseTime ⍰	459.36392	0.1	45.936394
☐		WaitTime ⍰	0.0	1.0E20	0.0

Configure Data Sources

- 18 Data Sources to Change (about 100 mouse clicks)
- Why not using a script:
  - wsadmin.sh -lang jython -f cfgDataSource.py
  - About 30 seconds to change all needed parameters of all Data Sources
- Start with Performance Tuning Guide and Addendum
- Monitor values!

Data sources > FNOSDS > Connection pools

Use this page to set properties that impact the timing of connecti performance of your application. Consider the default values care changing these values.

Configuration

General Properties

Scope

cells:cnxwas1Cell01

* Connection timeout

180   seconds

* Maximum connections

200   connections

* Minimum connections

75   connections

* Reap time

180   seconds

Set J2EE Security Roles

- First found on Klaus Bilds Blog: http://kbild.ch
- Extended version with Group support and input option
  - No need to edit the script
- Two versions:
  - Restricted
    - Each application ask for credentials, no data visible for anonymous Users
  - Unrestricted
    - Default Settings, some content is visible to Anonymous Users
- Remember:
  - Applications restart automatically, when you change J2EE Roles

Set J2EE Roles for special applications

- Some applications are configured different from environment to environment
- Save time and use following scripts:
  - cfgJ2EERoleGlobalModerator.py
  - cfgJ2EERoleMetricsReader.py
  - cfgJ2EERoleMetricsReportRun.py
  - cfgJ2EERoleSocialMail.py
- Deactivate or activate the application for users and groups

J2EE Security Roles - BACKUP

- CR and Fixpack Installations pre IBM Connections 4.0 often reset J2EE Roles to Default
- Problems:
  - Restricted environments can be visible to Internet Users (Search Bots)
    - Check with Google: site:yourconnectionshost
  - Configuration needs time and documentation (who is allowed to administrate, moderate ...)
- Script writes text files as backup to a local folder
- Roles of all installed applications (IBM Docs, Forms Experience Builder,...)
- ./wsadmin.sh -lang jython -f cfgJ2EERoleBackup.py

J2EE Security Roles - RESTORE

- Backups of Security Roles can be restored
- Advantages:
  - All manually configured roles will be set like before
  - You can edit the backup files to add or change users
  - Backup of Dev or QA Systems can be restored in production (Admin Users and Groups must exist there)
- ./wsadmin.sh -lang jython -f cfgJ2EERoleRestore.py

Configure JVM Log Files

- Default Setting for JVM Log Files (SystemOut.log & SystemErr.log):
  - Size: 1 MB
  - No historical Log Files
  - Too small to troubleshoot errors
- Better:
  - Size: 20 – 40 MB
  - 5-10 historical Log Files
- wsadmin.sh -lang jython -f cfgLogFiles.py

System.out

* File Name:
$(LOG_ROOT)/dmgr/SystemOut.log

File Formatting
Basic (Compatible)

Log File Rotation

☒ File Size
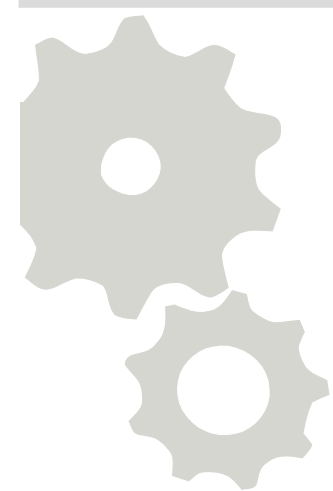Maximum Size
1   MB

☐ Time
Start Time
24
Repeat Tim
24

Maximum Number of Historical Log Files. Number in range 1 through 200.
5

Set JVM Heap Sizes

- Performance Tuning Guide provides some proposals for JVM Max Heap and Initial Heap
- Must be set on Deployment Manager, Nodeagents and Application Servers
- You can monitor through Verbose Garbage Collection
  - minHeap = maxHeap can increase performance up to 10%
  - WebSphere Tech Journal
- Script: cfgJVMHeap.py
  - Shows actual size of initialHeapSize and maximumHeapSize for all JV
  - Asks initialHeapSize and maximumHeapSize for all JVM
  - "Return" leaves actual setting

☐ Verbose JNI

Initial heap size
512 MB

Maximum heap size
1536 MB

☐ Run HProf

Business as usual

Prepare your environment

- Some scripts need jdbc driver to access data
- Details in the scripting documentation
- Easiest way:
  - Edit %WAS_HOME%\profiles\Dmgr01\bin\setupCmdLine.bat
  - ADD the JDBC PATH (D:\IBM\JDBC or D:\IBM\SQLLIB\java) to WAS_EXT_DIRS
- Better
  - copy wsadmin.bat and setupCmdLine.bat to edit and use them with the scripts
- Edit the scripts cnxMember* and provide JDBC Driver, User and Password

Prepare your environment

```
# add the jar to your classpath, then import it
# better to read WebSphere variable PROFILES_JDBC_DRIVER_HOME

import com.ibm.db2.jcc.DB2Driver as Driver

# Change User and Password
props = Properties()
props.put( 'user', 'lcuser' )
props.put( 'password', 'password' )

# Change Hostname, Port and maybe DB Name
conn = Driver().connect( 'jdbc:db2://cnxwin.stoeps.local:50000/PEOPLEDB', props )
```

Check External IDs against LDAP

- Sometimes User can't logon to single Connections Applications
- ExtIDs are out of sync, Several Error messages
- Script to check if LDAP UUIDs (GUID, SID) are equal to Connections UUID
  - Edit cnxMemberCheckExIDByEmail.py
  - You must edit the script and change following:
    - Set the used JDBC Driver (DB2, SQL Server, Oracle)
    - DB User and Password
    - DB Host, Port, peopleDB name
  - Script reads PROF_GUID from peopleDB through JDBC
    - Check UUID in Applications

Deactivate and Activate Users

- After rename or sometimes without real reason
  - Users get out of sync
  - They can open Profiles, but no other Application
  - Or they have problems with a single App
  - Deactivating and Reactivating through ProfilesService can be a resolution for this
- When you want to reactivate a user you must provide UID and EMAIL (was deleted through Deactivate)
- Script: cnxMemberDeactAndActByEmail.py
  - Stores UID and Mail in memory
  - Edit the script and provide your JDBC Driver, User and URL

![engage by blug logo]

Sync External IDs of all Users in all Applications

- Sometimes LDAP IDs and UUID come out of sync
- Switch LDAP System requires a synchronization
- MemberService.syncAllMembersByExtId for each Application
- cnxMemberSyncAllByEXID.py resyncs all Applications for all Users

```
updateOnEmailLoginMatch (t)rue or (f)alse) t
Sync all Members by EXTID for Activities,  syncAllMembersByExtId request processed
Sync all Members by EXTID for Blogs,  syncAllMembersByExtId request processed
Sync all Members by EXTID for Communities,  syncAllMembersByExtId request processed
Sync all Members by EXTID for Dogear,  syncAllMembersByExtId request processed
Sync all Members by EXTID for Files,  syncAllMembersByExtId request processed
Sync all Members by EXTID for Forums,  syncAllMembersByExtId request processed
Sync all Members by EXTID for News,  syncAllMembersByExtId request processed
Sync all Members by EXTID for Wikis,  syncAllMembersByExtId request processed
[root@cnxwas1 bin]#
```

Work with Files Policies

- Creating or editing Policies is sometimes a pain
- Library size must be provided as Long
- (e.g. 2 GB = 2147483648L)
- Edit example
  - FilesPolicyService.edit("2d93497d-065a-4022ae25-a4b52598d11a", "My Policy", 2147483648L)
  - Find UUID of Policy to edit, copy the size from calculator …
- wsadmin.sh -lang jython -f CnxFilesPolicies.py

Add Policies to Libraries

- You need UUID from Policy and Community
  - Community Listing provides too much information, hard to find UUID
  - Example assign Policy
    - FilesLibraryService.assignPolicy("f0d01111-9b21-4dd8-b8be-8825631cb84b", "2d93497d-065a-4022ae25-a4b52598d11a")
- Script POC
  - cnxLibraryPolicies.py
  - Listing of all Communities
  - and Policies
- To Do:
  - Search Option

```
wsadmin>FilesLibraryService.browseCommunity("title", "true", 1, 20)
[{maximumSize=524288000, size=0, percentUsed=0.0, summary=Test Mailfunktion, createDate=Tue Oct 08 1
1:56:05 CEST 2013, policyId=00000000-0000-0000-0000-000000000001, externalContainerId=2db62e12-0d87-
44a1-a769-f7d432aede4d, themeName=default, label=W2fd48efc9129_4cfb_aafa_babbd2d1f7e0, title=ALL, ow
nerUserId=00000000-0000-0000-0000-000000000000, type=community, id=05d468f0-c523-473d-b7ef-89442aca2
4d4, externalInstanceId=W2fd48efc9129_4cfb_aafa_babbd2d1f7e0, lastUpdate=Tue Oct 08 11:56:05 CEST 20
13}, {maximumSize=32212254720, size=0, percentUsed=0.0, summary=Sammlung von Anwendungsbeispielen, I
ntegration von Anwendungen, Erfolgsgeschichten, createDate=Tue Sep 10 07:26:40 CEST 2013, policyId=3
df87d00-691a-4fd9-95b4-cbcadc47c49d, externalContainerId=983d2724-8634-4c3e-ae0b-7b6de0c7fca3, theme
Name=default, label=W1cbed014db46_400a_a979_56ccd9033a8e, title=Best Practice - CNX, ownerUserId=000
00000-0000-0000-0000-000000000000, type=community, id=26ed0755-2633-4282-af8b-d836163ffcc3, external
InstanceId=W1cbed014db46_400a_a979_56ccd9033a8e, lastUpdate=Tue Sep 10 07:26:40 CEST 2013}, {maximum
```

Reparenting Communities

- Klaus Bild created a script to use the new 4.5 CR3 function to move Communities
- It is much easier than the way with UUID

```
your choice> 25
Connecting to WebSphere:name=CommunitiesAdmin,type=LotusConnections,cell=cnxwinCell01,node=cnxwinNode01,process=Cluster1
_server1
Communities Administration initialized

Press C for moving a community, M for Menu or X for Exit
C
What is the name of the community which you want to move? Test.*

Do you really want to move the subcommunity Test Reparenting (y) ? y
moveSubcommunityToCommunity request processed

Successful moved Community Test Reparenting


Press C for moving a community, M for Menu or X for Exit
C
What is the name of the community which you want to move? IBM.*

What is the name of the community which should be the parent? Test.*

Do you really want to move the subcommunity IBM Docs into Test Reparenting (y) ? y
moveCommunityToSubcommunity request processed

Successful moved Community IBM Docs
```

DB2 – Database Optimization

- Performance Tuning Guide:
    - Reorganization (change physical data arrangement on disc) should be done when a significant amount of data is added
    - Runstat should be run regularly to ensure that queries are being executed optimally
- Reorganization can be done with SQL Scripts which can be found in connections.sql folder of Connections Wizards Package
- Runstat can be configured through automatic maintenance

DB2 - Database Optimization - Reorganisation

- Create a scheduled job (Windows Scheduler or Cron)
    - crontab -e
        - 15 5 * * 6 cd /opt/install/Wizards/connections.sql;./reorg.sh
        - Runs Script each saturday at 5:15 am
- Use a script within Wizards-Folder
    - Linux (call Script as Instance Owner from Wizards/connections.sql)

```
# line end with @
for db in activities blogs cognos communities dogear files forum libraries.gcd libraries.os metrics mobile wikis ; do
        db2 -td@ -vf $db/db2/reorg.sql
done
# homepage and profiles use ; for line end
for db in homepage profiles ; do
        db2 -tvf $db/db2/reorg.sql
done
```

- Windows

```
FOR %A IN (activities blogs cognos communities dogear files forum libraries.gcd libraries.os metrics mobile wikis) DO db2 -td@ -vf %A\db2\reorg.sql

FOR %A IN (homepage profiles) DO db2 -tvf %A\db2\reorg.sql
```

DB2 - Database Optimization - Runstats

- Configure Automatic Maintenance through IBM Data Studio for one database
  - Online Maintenance Window
  - Offline Maintenance Window
  - Backup Policy
  - Reorg Policy
  - Runstats Policy
- Save commands to a SQL Script
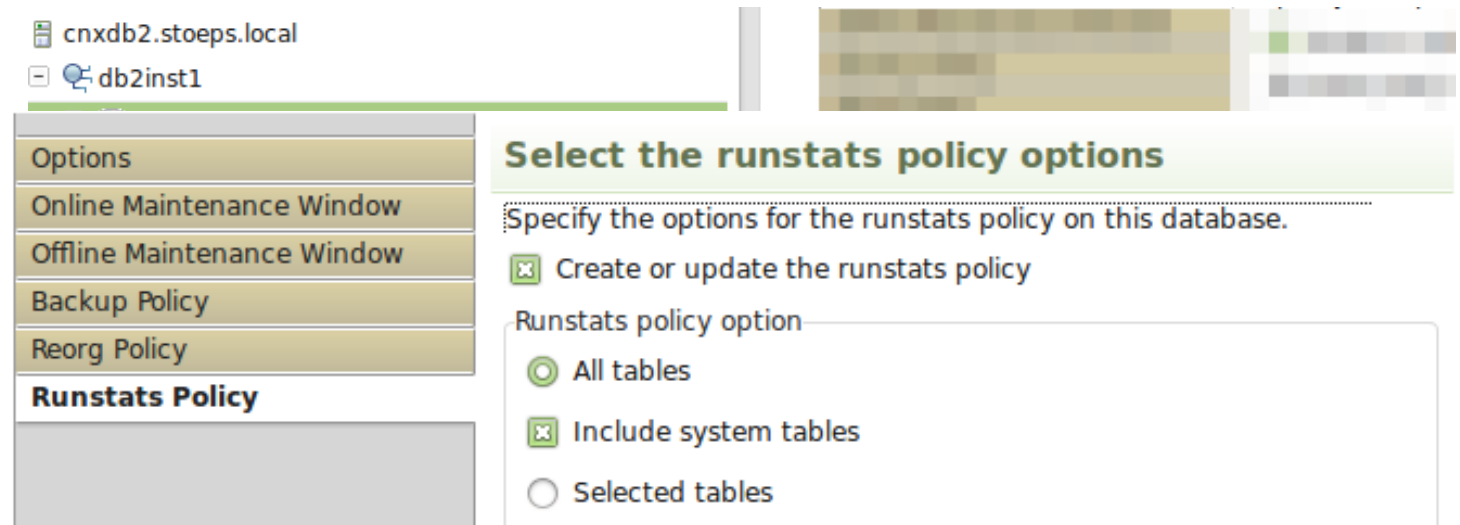
DB2 – Automatic Maintenance

- Edit the Command in IBM Data Studio

```
CONNECT TO HOMEPAGE;
UPDATE DATABASE CONFIGURATION USING auto_db_backup ON auto_reorg ON auto_runstats ON auto_prof_upd ON auto_stats_prof ON;
CALL SYSPROC.AUTOMAINT_SET_POLICY ('MAINTENANCE_WINDOW', BLOB('<?xml version="1.0" encoding="UTF-8"?><DB2MaintenanceWindows xmlns="
CALL SYSPROC.AUTOMAINT_SET_POLICY ( 'AUTO_BACKUP', BLOB('<?xml version="1.0" encoding="UTF-8"?><DB2AutoBackupPolicy xmlns="http://w
CALL SYSPROC.AUTOMAINT_SET_POLICY ( 'AUTO_REORG', BLOB('<?xml version="1.0" encoding="UTF-8"?><DB2AutoReorgPolicy xmlns="http://www
CALL SYSPROC.AUTOMAINT_SET_POLICY ( 'AUTO_RUNSTATS', BLOB('<?xml version="1.0" encoding="UTF-8"?><DB2AutoRunstatsPolicy xmlns="http
CONNECT RESET;
```

- Copy five lines:
  - "Update Database …"
  - Four call statements (CALL SYSPROC …) to a new sql file
- Create a Batch / Shell Script

```
databases=$(db2 list database directory | grep alias | awk '{print $4}' | sort)

for database in ${databases[@]}
do
 if [$database != "TOOLSDB" | $database != "toolsdb"] ; then
    echo $database
    db2 "connect to $database"
    db2 -tvf automaint.sql
    db2 "connect reset"
 else
    echo "Skip $database"
 fi
done
```

DB2 Backup – Online and Offline

- Configure Online and Offline Backups through Automatic Maintenance
- Create backup Scripts and use with cron or Windows scheduler
- You must prepare the databases for Online Backups
  - Set a path for Archive Logs
  - IMPORTANT: logarchmeth1 disk:$archLogs

DB2 Backup – Online and Offline (2)

- logarchmeth1 manages the deletion of old logs
- You must create an Offline Backup after starting these script!!!

```
# Path to archive Logs
archLogs=/opt/db2archivelogs

# get all databases of db2 instance
databases=$(db2 list database directory | grep alias | awk '{print $4}' | sort)

# Loop through list of databases:
for database in ${databases[@]}
do
 echo $database
db2 update database configuration for $database using LOGARCHMETH1 LOGRETAIN AUTO_DEL_REC_OBJ ON num_db_backups 1 rec_his_retentn 0 logarchmeth1 disk:$archLogs
done
```

DB2 Database Offline Backup

•You must create an Offline Backup after starting these scripts
•You (and WebSphere) can't connect to databases until this is done

```
# Set Backup-Directory, change to your environment
export DBBACKUPPATH=/opt/db2backup
# get all databases of db2 instance
databases=$(db2 list database directory | grep alias | awk '{print $4}' | sort)

# Loop through list of databases:
for database in ${databases[@]}
do
 echo $database
db2 backup database $database to $DBBACKUPPATH COMPRESS
done
```

DB2 Database Online Backup

- •Include Logs in Backup
- •Create regularly backups without stopping Connections
    - •Use a script
    - •Automatic Maintenance
        - •DB2 decides the backup time
            - •max time between backups
            - •max log space between backups

```
# Set Backup-Directory, change to your environment
export DBBACKUPPATH=/opt/db2backup
# get all databases of db2 instance
databases=$(db2 list database directory | grep alias | awk '{print $4}' | sort)

# Loop through list of databases:
for database in ${databases[@]}
do
 echo $database
 db2 backup database $database ONLINE to $DBBACKUPPATH COMPRESS INCLUDE LOGS
done
```

Create or update the backup policy

Backup policy option

Backup criteria

Specify the criteria that determines how frequently this database will be back

○ Optimize for database recoverability (more frequent backups)

○ Balance database recoverability with performance

○ Optimize for database performance (less frequent backups)

◉ Customize the criteria

Criteria details

Maximum time between backups: `1` `Day`

Maximum log space used between backups: `10` MB

DB2 Database Restore Online Backup

- Drop database you want to restore (Example BLOGS)
  - db2 drop database blogs
- Create database through create-Scripts of Wizards-Folder
  - cd /opt/install/Wizards/connections.sql/blogs/db2
  - db2 -td@ -vf createDb.sql
- Grant access to database
  - db2 -td@ -vf appGrants.sql

DB2 Database Restore Online Backup

- Restore Data
  - db2 restore database BLOGS from /opt/db2backup REPLACE EXISTING
  - db2 restore database BLOGS LOGS from /opt/db2backup LOGTARGET /opt/db2logs
  - db2 rollforward database BLOGS to end of logs overflow log path "(/opt/db2logs)"
  - db2 rollforward database BLOGS complete overflow log path "(/opt/db2logs)"
- Reorganize database
  - db2 -td@ -vf reorg.sql

Troubleshooting

Are All Applications running

- To check If all IBM Connections Applications are running
  - Go to ISC – Applications – Application Types - WebSphere Enterprise Applications
  - Start wsadmin.sh -lang jython -f checkAppStatus.py
  - Get a grouped list with running and stopped applications
- Create a Batch / Shell Script to call this regularly or use it with a Monitoring Software

```
Getting application status of all installed applications...

        RUNNING APPLICATIONS:

                Forms Experience Builder

        STOPPED APPLICATIONS:

                Activities
                Blogs
                Common
                Communities
                Dogear
```

Can WebSphere connect to DataSources

- To check If all Data Sources can be reached
  - Go to ISC – Resources – JDBC – Data sources
  - Check all Data Sources and click Test connection
- Use a script
  - wsadmin.sh -lang jython -f checkDataSource.py

```
Connection to DataSource successful:

        FNGCDDS
        FNOSDS
        IBM_FORMS_DATA_SOURCE
        activities
        blogs
        communities
        dogear
        files
        forum
        homepage
        metrics
        mobile
        news
        oauth provider
        profiles
        search
        wikis
```

☐ Messages

ℹ The test connection operation for data source FNGCDDS on server dmgr at node cnxwas1CellManager01 was successful.

ℹ The test connection operation for data source FNGCDDSXA on server dmgr at node cnxwas1CellManager01 was successful.

ℹ The test connection operation for data source FNOSDS on server dmgr at node cnxwas1CellManager01 was successful.

ℹ The test connection operation for data source FNOSDSXA on server dmgr at node cnxwas1CellManager01 was successful.

ℹ The test connection operation for data source activities on server dmgr at node cnxwas1CellManager01 was successful.

ℹ The test connection operation for data source blogs on server dmgr at node

Documentation

JVM Heap Sizes – checkJVMHeap.py

- Many places to look for this values
- Script to collect it and print it out

```
cnxwinCell01 - cnxwinNode01 - nodeagent
        initialHeapSize: 512
        maximumHeapSize: 512

cnxwinCell01 - cnxwinNode01 - Cluster1_server1
        initialHeapSize: 1024
        maximumHeapSize: 1024

cnxwinCell01 - cnxwinNode01 - Cluster2_server1
        initialHeapSize: 1024
        maximumHeapSize: 1024

cnxwinCell01 - cnxwinNode01 - InfraCluster_server1
        initialHeapSize: 1024
        maximumHeapSize: 1024

cnxwinCell01 - cnxwinNode02 - ConversionCluster_server1
        initialHeapSize: 1024
        maximumHeapSize: 1024

cnxwinCell01 - cnxwinNode02 - nodeagent
        initialHeapSize: 512
        maximumHeapSize: 512
```

JVM Log Settings – checkLogFiles.py

- Documentation of JVM Log Settings

```
Log setting for: cnxwinCellManager01       dmgr

        LogSettings SystemOut:
            [baseHour 24]
            [fileName $(LOG_ROOT)/dmgr/SystemOut.log]
            [formatWrites true]
            [maxNumberOfBackupFiles 5]
            [messageFormatKind BASIC]
            [rolloverPeriod 24]
            [rolloverSize 20]
            [rolloverType SIZE]
            [suppressStackTrace false]
            [suppressWrites false]

        LogSettings SystemErr:
            [baseHour 24]
            [fileName $(LOG_ROOT)/dmgr/SystemErr.log]
            [formatWrites true]
            [maxNumberOfBackupFiles 5]
            [messageFormatKind BASIC]
            [rolloverPeriod 24]
            [rolloverSize 20]
            [rolloverType SIZE]
            [suppressStackTrace false]
            [suppressWrites false]
```

Used Ports – checkPorts.py

- Documentation of all Ports used in your WebSphere Cell

```
webserverNode cnxwas1.stoeps.local
        WEBSERVER_ADDRESS : cnxwas1.stoeps.local : 80
        WEBSERVER_ADMIN_ADDRESS : cnxwas1.stoeps.local : 8008

cnxwas1CellManager01 dmgr
        BOOTSTRAP_ADDRESS : cnxwas1.stoeps.local : 9809
        CELL_DISCOVERY_ADDRESS : cnxwas1.stoeps.local : 7277
        CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS : cnxwas1.stoeps.local : 9402
        CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS : cnxwas1.stoeps.local : 9403
        DCS_UNICAST_ADDRESS : * : 9352
        DataPowerMgr_inbound_secure : * : 5555
        IPC_CONNECTOR_ADDRESS : ${LOCALHOST_NAME} : 9632
        ORB_LISTENER_ADDRESS : cnxwas1.stoeps.local : 9100
        SAS_SSL_SERVERAUTH_LISTENER_ADDRESS : cnxwas1.stoeps.local : 9401
        SOAP_CONNECTOR_ADDRESS : cnxwas1.stoeps.local : 8879
        WC_adminhost : * : 9060
        WC_adminhost_secure : * : 9043

cnxdocsNode01 nodeagent
        BOOTSTRAP_ADDRESS : cnxdocs.stoeps.local : 2809
        CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS : cnxdocs.stoeps.local : 9202
        CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS : cnxdocs.stoeps.local : 9201
        DCS_UNICAST_ADDRESS : * : 9353
        IPC_CONNECTOR_ADDRESS : localhost : 9629
        NODE_DISCOVERY_ADDRESS : cnxdocs.stoeps.local : 7272
        NODE_IPV6_MULTICAST_DISCOVERY_ADDRESS : ff01::1 : 5001
        NODE_MULTICAST_DISCOVERY_ADDRESS : 232.133.104.73 : 5000
```

WebSphere Variables – checkVariables.py

- Good starting point for Troubleshooting too
- Documentation

```
SCOPE: cells/cnxwas1Cell01/nodes/webserverNode/servers/cnxwas1.stoeps.local
        SERVER_LOG_ROOT                          ${LOG_ROOT}/cnxwas1.stoeps.local
        WAS_SERVER_NAME                          cnxwas1.stoeps.local
        WEB_INSTALL_ROOT                         /opt/IBM/HTTPServer

SCOPE: cells/cnxwas1Cell01
        ACTIVITIES_CONTENT_DIR                   /opt/IBM/Connections/data/shared/activities/content
        ACTIVITIES_HOME                          /opt/IBM/Connections/activities/activities/activities
        ACTIVITIES_JDBC_DRIVER_HOME              /opt/IBM/JDBC
        ACTIVITIES_STATS_DIR                     /opt/IBM/Connections/data/shared/activities/statistics
        ACTIVITY_STREAM_SEARCH_INDEX_DIR         /opt/IBM/Connections/data/local/news/search/index
        ACTIVITY_STREAM_SEARCH_REPLICATION_DIR   /opt/IBM/Connections/data/shared/news/search/indexReplication
        AUDIT_FILE_ROOT_DIR                      /opt/IBM/Connections/data/shared/audit
        BLOGS_CONTENT_DIR                        /opt/IBM/Connections/data/shared/blogs/upload
        BLOGS_HOME                               /opt/IBM/Connections/blogs/blogs/blogs
        BLOGS_JDBC_DRIVER_HOME                   /opt/IBM/JDBC
```

Version Information – WebSphere, Connections

- IBM WebSphere show installed Version and Hotfixes
  - $WAS_HOME/profiles/Dmgr01/bin/historyInfo.sh
- Show all Installed Fixes of IBM Connections
  - cd $CONNECTIONS_ROOT
  - ./updateSilent.sh -fix -installDir /opt/IBM/Connections

```
IBM Connections
Update Installer Version 4.5.0.0, Dated 10/20/13

Listing installed fixes:
    Fix name: LO75060-IC4500-CR01-Homepage
    Fix name: LO75060-IC4500-CR01-MobileAdmin
    Fix name: LO76350-IC4500-CR02-Bookmarks
    Fix name: LO76350-IC4500-CR02-MobileAdmin
    Fix name: LO77120-IC4500-CR03-Container
    Fix name: LO75060-IC4500-CR01-CCM
    Fix name: LO76350-IC4500-CR02-Help
    Fix name: LO75060-IC4500-CR01-Common
    Fix name: LO75060-IC4500-CR01-Proxy
    Fix name: LO77120-IC4500-CR03-CCM
    Fix name: LO77975
    Fix name: LO75060-IC4500-CR01-Wikis
    Fix name: LO77120-IC4500-CR03-Blogs
```

Version Information – WebSphere, Connections

- IBM WebSphere show installed Version and Hotfixes
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- Show all Installed Fixes of IBM Connections
  - cd $CONNECTIONS_ROOT
  - ./updateSilent.sh -fix -installDir /opt/IBM/Connections

```
Installation Event
--------------------------------------------------------------------
Fix ID                        8.0.0.0-WS-WASND-IFPM71430
Action                        install
Version                       8.0.0.0
Package                       8.0.0.0-WS-WASND-IFPM71430_8.0.0.20130122_1330
Log File Name                 /var/ibm/InstallationManager/logs/20140101_2025.xml
Timestamp                     2014-01-01 20:43:06+0100
Result                        success
```

Resources

Add On – cnxmenu.py

- Menu for all Jython Scripts

```
WebSphere and Connections Administration
-----------------------------------------------

 1 Configure DataSources (cfgDataSource.py)
 2 Backup J2EE Roles of all Applications (cfgJ2EERoleBackup.py)
 3 Restore J2EE Roles of all Applications (cfgJ2EERoleRestore.py)
 4 Set J2EE Roles initially (restricted) (cfgJ2EERolesRestricted.py)
 5 Set J2EE Roles initially (unrestricted) (cfgJ2EERolesUnrestricted.py)
 6 Set J2EE Roles for Moderator Roles (cfgJ2EERoleGlobalModerator.py)
 7 Set J2EE Role for Metrics Reader (cfgJ2EERoleMetricsReader.py)
 8 Set J2EE Role for Metrics Report Run (cfgJ2EERoleMetricsReportRun)
 9 Set J2EE Role for SocialMail (cfgJ2EERoleSocialMail)
10 Configure JVM Heap Sizes (cfgJVMHeap.py)
11 Configure SystemOut/Err Log Size (cfgLogFiles.py)
12 Configure Monitoring Policy (cfgMonitoringPolicy.py)
13 Check if all Apps are running (checkAppStatus.py)
14 Check Database connections (checkDataSource.py)
15 Check JVM Heap Sizes (checkJVMHeap.py)
16 Check SystemOut/Err Log Sizes (checkLogFiles.py)
17 Check / Show all used ports (checkPorts.py)
18 Show WebSphere Variables (checkVariables.py)
19 Work with Files Policies (cnxFilesPolicies.py)
20 Work with Libraries (cnxLibraryPolicies.py)
21 Check External ID (all Apps & Profiles) (cnxMemberCheckExIDByEmail.py)
22 Deactivate and Activate a User in one step (cnxMemberDeactAndActByEmail.py)
23 Deactivate a User by email address (cnxMemberInactivateByEmail.py)
24 Synchronize ExtID for all Users in all Apps (cnxMemberSyncAllByEXID.py)
25 Reparent/Move Communities (cnxCommunitiesReparenting.py)
26 Exit
```

Download all shown scripts

- You can download all scripts (and some more) WITHOUT WARRENTY and at your own risk:
  - https://github.com/stoeps13/ibmcnxscripting
  -

- OpenNTF Project since 21st november 2014 – Administration Scripts for WebSphere
  - http://preview.tinyurl.com/otmq6mj

Engage

- Work with us on the scripts
- Discuss new ideas
- You can help
  - create documentation
  - test scripts in your environments

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Skype Chats:
- Linux ICS
- IBM Connections

If you are interested in joining, connect with us on skype and we will add you

Thank You!